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CLAIMS

1. A base station (100) devised for indoor use in a WCDMA network,
comprising a support unit (401) including a power supply unit (303), said
5 support unit (401) being adapted to be attached to a support structure, and a
complete base station unit (402) mechanically supported by said support unit,
characterised in that said complete base station unit (402) is designed as a
separate docking unit locked in said support unit (401) by cooperating snap
locking means (602, 703) arranged in said support unit (401) and base station
10 unit (402), allowing an easy installation/removal of said complete base
station unit (402) in/from said support unit (401).
2. The base station (100) according to claim 1 further **characterised in** that
said power supply unit (303) housed in said support unit (401) comprises an
15 AC/DC converter feeding said complete base station unit (402) with a DC-
voltage.
3. The base station (100) according to any of claims 1 to 2 further
characterised in that said base station unit (402) has a sandwich structure
20 comprising a rigid metal back plate (1201), a rigid metal front plate (1208),
and a main circuit board (1206) attached intermediate said back plate and
front plate (1208).
4. The base station (100) according to claim 3 wherein said rigid metal back
25 plate (1201) comprises cooling flanges (1601).
5. The base station (100) according to claim 4 wherein said back plate's (1201)
cooling flanges (1601) are arranged on the side facing away from said circuit
board (1206) whereby said main circuit board (1206) is cooled by means of
30 self-convection through said back plate (1201).

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6. The base station (100) according to any of claims 3-5 wherein all circuits of a control processing block, a base band processing block and an RF block are arranged on said main circuit board (1206).
- 5 7. The base station (100) according to claim 6 further **characterised in that** said main circuit board (1206) comprises border portions (1207) dividing the main circuit board in sections with separate circuits for said blocks, and where said front plate comprises inner walls (1501) with end portions engaging said border portions (1207) for shielding said separate circuits from
- 10 each other.
8. The base station as recited in any of claims 3-7 further **characterised in that** it comprises a transmission interface block realised in form of a separate circuit board (1210), which is attachable to the main circuit board (1206) by
- 15 means of a contact interface, thereby allowing an easy substitution of said circuit board (1210).
9. The base station (100) according to any of the preceding claims **characterised in that** said support unit (401) comprises support members
- 20 (601) and said base station unit (402) comprises cooperating hanger members (701) which are devised to connect to said support members (1601) in a pivoting engagement, and wherein said snap locking means (602, 703) are included in said support (401) unit and in said base station unit (402), which are devised to engage with each other by pivoting said base station
- 25 unit.
10. The base station (100) according to claim 9 **characterised in that** said snap locking means (602, 703) are formed by an inwardly projecting knob on a side wall of the support unit (401), and a cooperating recess in the base
- 30 station unit (402), wherein engagement of the knob and the recess locks said base station unit (402) from moving vertically upwards and horizontally

outwards from the support unit (401).

11. The base station (100) according to claim 9 **characterised in** that said snap locking means are realised by means of spring-loaded engaging means
5 arranged on a side wall of said support unit (401) and a cooperating recess in a side wall of said base station unit (402).
12. The base station (100) according to any of the preceding claims
10 **characterised in** that said base station (100) comprises at least one interface for connecting an external alarm equipment with the control processing circuit (1404) of said base station (100), thereby allowing the establishment of a communication channel between said external alarm equipment and a central alarm station.
13. The base station (100) according to any of the preceding claims
15 **characterised in** that said base station (100) comprises a handle (702) at a side portion, allowing the base station to be carried.
14. The base station (100) according to claim 13 **characterised in** that said
20 handle (702) is arranged on the lower end of said base station unit (402), when the base station unit (402) is installed in said support unit (401), and that said handle (702) further comprises a cable race groove.
15. The base station (100) according to claim 14 **characterised in** that at least
25 one cable contact is positioned at the lower end of said base station, when the base station unit (402) is installed in said support unit (401), under said handle and tilted about 45 degrees.
16. The base station (100) according to any of the preceding claims
30 **characterised in** that it comprises an internal antenna (403) covered by a front cover (404) of an electromagnetically transparent material.

17. Base station (100) devised for indoor use in a WCDMA network, comprising a base station unit (402) having an interface (1405) for connection to a power supply (303), a radio network controller, RNC, and to an antenna (403), said
5 base station unit having a sandwich structure comprising a rigid metal back plate (1201), a rigid metal front plate (1208), and a main circuit board (1206) attached intermediate said back plate (1201) and front plate (1208), wherein all circuits of a control processing block (1404), a base band processing block (1402) and an RF block (1401) are arranged on said main circuit board
10 (1206).
18. The base station as recited in claim 17, wherein said rigid metal back plate (1201) comprises cooling flanges (1601).
- 15 19. The base station as recited in claim 18, wherein said cooling flanges (1601) are arranged on a side facing away from said circuit board (1206), and wherein said main circuit board (1206) is cooled by means of self-convection of said back plate.
- 20 20. The base station as recited in any of claims 17-21 further **characterised in that** said main circuit board (1206) comprises border portions (1207) dividing the main circuit board in sections with separate circuits for said blocks, and where said front plate (1208) comprises inner walls (1501) with end portions engaging said border portions (1207) for shielding said separate
25 circuits from each other.
21. The base station according to any of claims 17-20, wherein said front plate (1208) comprises a mechanical interface for attaching an internal antenna (403), and wherein said antenna is covered by a front cover (404) of an
30 electromagnetically transparent material.

22. The base station as recited in any of claims 19-20 further **characterised in**
that the control processing block (1404) and Radio Frequency block (1401)
of said main circuit board (1206) are arranged in separate shielded
compartments formed between said front plate (1208) and back plate (1201),
5 whereby said control processing block (1404) and Radio Frequency block
(1401) are electromagnetically shielded from other electric circuits of the
base station (100).
23. The base station as recited in any of claims 18-22 further **characterised in**
10 **that** a transmission interface block is realised on a separate circuit board
(1210), which is attachable to the main circuit board (1206) by means of a
contact interface, thereby allowing the easy substitution of said circuit board
(1210).
- 15 24. The base station according to claim 23 further **characterised in that** said
circuit board (1210), a base band processing block (1402) and a DC/DC
block (1403) of said circuit board (1206), are arranged in separate shielded
compartments formed between said front plate (1208) and back plate (1201),
and whereby said circuit board (1210), base band processing block (1402)
20 and DC/DC block (1403) are electromagnetically shielded from other electric
circuits of the base station (100)..
25. A cellular radio network, including one or more macro base stations,
characterised in that said network further comprises a base station
25 according to any of claims 1-24.
26. Method for assisting the installation of a base station (100) for indoor use in
a WCDMA network, which base station comprises a support unit (401)
including a power supply unit (303), and a complete base station unit (402)
30 mechanically supported by said support unit (401), comprising the steps of:
- mechanically attaching said support unit (401) to a support structure;

- mechanically docking said base station unit (402) into the support unit (401) by engaging cooperating snap locking means (602, 703) arranged in said support unit (401) and said base station unit (402);
 - connecting the base station unit to a radio network controller, RNC, of said network, to an antenna (403), and to said power supply unit (303); and
 - downloading application software and office data from a management tool to said base station unit, allowing the establishment of a communication channel between said base station unit (402) and said RNC .
27. The method according to claim 26 wherein said step of mechanically attaching said base station unit (402) to the support unit (401) comprises the following steps:
- engaging hanger members (701) of said base station unit (402) with cooperating support members (601) of said support unit (401), and,
 - pivoting said base station unit (402) into engagement of cooperating snap locking means (602, 703) arranged in said support unit (401) and said base station unit (402).
28. The method according to any of claims 26-27 further comprising the steps of:
- connecting an external alarm equipment to said base station unit (402),
 - downloading specific software for said external alarm equipment to the control block unit (1404) of said base station unit (402), allowing the establishment of a communication channel between said alarm equipment and a central alarm station.
29. The method as recited in claim 26, comprising the step of :
- connecting said management tool directly to said base station unit by means of a Local Management Tool, for direct downloading of said application software and office data to the base station unit.

30. The method as recited in claim 26, comprising the step of :

- connecting said management tool to a central radio network controller, RNC, of said network, for downloading of said application software and office data to the base station through said network.

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31. Method for assembly of a base station unit as recited in any of claims 17-24, comprising the steps of;

- placing the back plate (1201) on an assembly support;
- placing the circuit board (1206) on the back plate (1201);
- 10 - attaching the circuit board (1206) to the back plate (1201);
- placing the front plate (1208) on the circuit board (1206); and
- attaching the front plate (1208) to the back plate (1206).